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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/328,828	06/08/1999	SAMUEL GALPIN	0274331-0082	7344

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EXAMINER	
TANG, KENNETH	

ART UNIT	PAPER NUMBER
2195	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/328,828	GALPIN, SAMUEL	
	Examiner	Art Unit	
	Kenneth Tang	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8-14,17-30,33-36,38-42,44-52,54-61 and 64-66* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-14,17-30,33-36,38-42,44-52,54-61 and 64-66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 November 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This final action is in response to the Amendment filed on 11/22/04. Applicant's arguments have been fully considered but were not found to be persuasive.

2. Claims 1-6, 8-14, 17-30, 33-36, 38-42, 44-52, 54-61, and 64-66 are presented for examination.

Drawings

3. The informal amendment to the Drawings are approved by the Examiner. However, new corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the Office does not amend drawings for the Applicant. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Objections

4. Claims 17, 29, and 64 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to the other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims 7 and 53 have not been further treated on the merits.

5. In claims 1, 10, 19, 27, 35, 41, 47, and 57, an end quotation is missing. Specifically, "first process should be changed to "first process"

6. Claim 38 depends on claim 37, which is cancelled. It is unknown what claim 38 should be dependent on.

7. Claim 44 depends on claim 43, which is cancelled. It is unknown what claim 44 should be dependent on.

8. Claim 64 depends on claim 63, which is cancelled. It is unknown what claim 64 should be dependent on.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-6, 8-14, 17-30, 33-36, 38-42, 44-52, 54-61, and 64-66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following claim languages are indefinite:

a. In claims 1, 10, 19, 20, 36, there is no relationship or connection made between "second process" and second process (without quotes), for example. It is suggested that claims are amended to have the same terms be consistent.

b. In claims 1, 10, 19, 20, 36, the term "favorable" is a relative term which renders the claim indefinite. The term "favorable" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The Examiner

suggests amending the claim language to define favorable by clearing up what makes it favorable, for example, a condition is satisfied or met.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-6, 8-14, 17-30, 33-36, 38-42, 44-52, 54-61, and 64-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (US 6,499,048 B1).

11. As to claim 1, Williams teaches a method of operation of a control system, comprising

A. executing a first sequence of instructions in any of a "first process" *(see claim 8)*;

B. executing a second sequence of instructions in any of a "second process", the second process being loosely coupled with respect to the first process *(see claim 8, see Abstract)*,

C. comparing a state of the first process following completion by it of execution of the first instruction sequence with a state of the second process following completion by it of the second instruction sequence *(col. 1, lines 23-30)*,

E. Wherein each of the first and second processes execute on any of a process control field device, a block controller, a process controller, a process control plant server, a process control enterprise server, an industrial control device, an industrial control system, an environmental

control device, art environmental control system, other control device, and other control system *(see Fig. 3)*.

12. Williams teaches wherein the comparison logic signals an error in response to a failure of the first and second processes to achieve comparable states at a time of comparison *(col. 13, lines 42-57)*.

13. Williams fails to explicitly teach that the processes are loosely coupled to each other. However, it is well known that two processes can be loosely coupled to each other. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of loosely coupled processes to the existing system because then the processes wouldn't have to share a common clock.

14. Williams fails to explicitly teach wherein the scheduling logic responds to an error or failure by rolling back each of the first and second processes to a prior states in which a favorable comparison was achieved. However, it is well known in the art of task management that processes can have the feature of rollback or two-phase commit, where the process completely finishes or else cancels out so that the effect is all or nothing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a rollback feature to the process so that they will be complete or not existent.

15. As to claim 2, Williams teaches comprising the step of executing step (C) one or more times over a time interval in order to determine whether the first and second processes achieve comparable states following completion of execution of the first instruction sequence by the first process *(col. 1, lines 23-30)*.

16. As to claim 3, Williams teaches comprising the step responding to a favorable comparison in step (C) by repeating steps (A) - (C) with a third instruction sequence in place of the first instruction sequence, and with a fourth instruction sequence in place of the second instruction sequence *(col. 3, lines 35-55)*.

17. As to claim 4, Williams teaches a method according to claim 3, comprising the steps of selecting the third instruction sequence as a function of a state of the first process following execution of the first instruction sequence, and selecting the fourth instruction sequence as a function of a state of the second process following execution of the second instruction sequence *(col. 3, lines 35-55)*.

18. As to claims 5, Williams teaches a method according to claim 4, comprising comparing a state of the first process prior to execution by it of the third instruction sequence with a state of the second process prior to execution by it of the fourth instruction sequence *(col. 3, lines 35-55)*.

19. As to claim 6, Williams teaches wherein the comparison logic signals an error in response to a failure of the first and second processes to achieve comparable states at a time of comparison *(col. 13, lines 42-57)*.

20. As to claims 8, Williams teaches a method according to claim 1, wherein step (C) comprises comparing any of registers, memory, flags, interrupts, tasks, and events in the respective processes *(col. 4, lines 28-32)*.

21. As to claim 9, Williams teaches a method according to claim 1, wherein each of the first and second processes comprise any of a thread and a process, and wherein the first and second processes execute on any of the same and different digital data processing apparatus *(see the rejection of claim 1)*. In addition, if the processes execute on either the same and different apparatuses, then they execute on any apparatus.

22. As to claim 10, it is rejected for the same reasons as stated in the rejection of claim 1. In addition, logic is used in the processes *(col. 9, lines 37-38)*. However, Williams fails to explicitly teach wherein the scheduling logic responds to an error by rolling back each of the first and second processes to a prior states in which a favorable comparison was achieved. However, it is well known in the art of task management that processes can have the feature of rollback or two-phase commit, where the process completely finishes or else cancels out so that the effect is all or nothing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a rollback feature to the process so that they will be complete or not existent.

23. As to claim 11, it is rejected for the same reasons as stated in the rejection of claim 8.

24. As to claim 12, it is rejected for the same reasons as stated in the rejections of 2 and 10.

25. As to claim 13, it is rejected for the same reasons as stated in the rejections of 4 and 10.

26. As to claim 14, it is rejected for the same reasons as stated in the rejections of 5 and 10.

27. As to claim 17, it is rejected for the same reasons as stated in the rejection of claim 10.

28. As to claim 18, it is rejected for the same reasons as stated in the rejection of claim 9.

29. As to claim 19, it is rejected for the same reasons as stated in the rejection of claims 1, 6, and 10. In addition, Williams teaches that the monitor synchronizes the processing sets *(col. 4, lines 22-24)*. Furthermore, Williams teaches subsequence instructions that make up instructions *(col. 5, lines 20-33)*.

30. As to claims 20 and 21, they are rejected for the same reasons as stated in the rejections of claims 19, 2 and 3.

31. As to claim 22, it is rejected for the same reasons as stated in the rejections of claims 15, 19, and 20.

32. As to claims 23, it is rejected for the same reasons as stated in the rejections of claims 19 and 2.

33. As to claim 24, it is rejected for the same reasons as stated in the rejections of claims 16.

34. As to claim 25, it is rejected for the same reasons as stated in the rejection of claim 9.

35. As to claims 26, it is rejected for the same reasons as stated in the rejection of claim 3. In addition, Williams teaches wherein each of the first and second processes execute on any of a process control field device, a block controller, a process controller, a process control plant server, and a process control enterprise server *(Fig. 3)*.

36. As to claim 27, it is rejected for the same reasons as stated in the rejection of claim 19.

37. As to claims 28, it is rejected for the same reasons as stated in the rejections of claims 2-4 and 27.

38. As to claims 29, it is rejected for the same reasons as stated in the rejection of claim 27. In addition, logic is used in the processes *(col. 9, lines 37-38)*.

39. As to claims 30, it is rejected for the same reasons as stated in the rejections of claims 20.

40. As to claim 33, it is rejected for the same reasons as stated in the rejection of claim 9.

41. As to claim 34, it is rejected for the same reasons as stated in the rejections of claims 26.

42. As to claim 35, it is rejected for the same reasons as stated in the rejection of claim 1.

43. As to claim 36, it is rejected for the same reasons as stated in the rejections of claim 3.

44. As to claim 38, it is rejected for the same reasons as stated in the rejections of claim 2.

45. As to claim 39, it is rejected for the same reasons as stated in the rejection of claim 9.

46. As to claim 40, it is rejected for the same reasons as stated in the rejections of claims 26.

47. As to claim 41, it is rejected for the same reasons as stated in the rejections of claims 1 and 19.

48. As to claim 42, it is rejected for the same reasons as stated in the rejections of claim 2.

49. As to claim 44, it is rejected for the same reasons as stated in the rejections of claim 2.

50. As to claim 45, it is rejected for the same reasons as stated in the rejection of claim 9.

51. As to claim 46, it is rejected for the same reasons as stated in the rejections of claim 26.

52. As to claim 47, it is rejected for the same reasons as stated in the rejection of claim 1.

53. As to claim 48, it is rejected for the same reasons as stated in the rejections of claim 2.

54. As to claims 49-51, they are rejected for the same reasons as stated in the rejections of claims 2-5 and 47.

55. As to claim 52, it is rejected for the same reasons as stated in the rejections of claim 6.

56. As to claim 54, it is rejected for the same reasons as stated in the rejection of claim 8.

57. As to claim 55, it is rejected for the same reasons as stated in the rejection of claim 9.

58. As to claim 56, it is rejected for the same reasons as stated in the rejections of claims 26.

59. As to claim 57, it is rejected for the same reasons as stated in the rejection of claim 10.

60. As to claim 58, it is rejected for the same reasons as stated in the rejection of claim 8.

61. As to claim 59, it is rejected for the same reasons as stated in the rejections of claims 20 and 57.

62. As to claim 60, it is rejected for the same reasons as stated in the rejections of claims 2-5 and 57.

63. As to claim 61, it is rejected for the same reasons as stated in the rejections of claims 4-5 and 57.

64. As to claim 64, it is rejected for the same reasons as stated in the rejection of claim 57. In addition, logic is used in the processes *(col. 9, lines 37-38)*.

65. As to claim 65, it is rejected for the same reasons as stated in the rejections of claim 9.

66. As to claim 66, it is rejected for the same reasons as stated in the rejections of claims 26.

Conclusion

67. Applicant argues in the Remarks on page 16 that the term "favorable" is not indefinite.

In response, the Examiner respectfully disagrees. The term "favorable" is a relative term which renders the claim indefinite. The term "favorable" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The Examiner suggests amending the claim language to define favorable by clearing up what makes it favorable, for example, a condition is satisfied or met.

68. Applicant argues in the Remarks on page 17 that Williams fails to teach being a control system. Applicant provides The American Heritage Dictionary of the English Language definition of a control system to be a mechanical, optical, or electronic system that is used to maintain a desired output.

During patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969).

Applicant argues (claim 1) that Williams does not teach having a control system. The rejection contains a detailed mapping of each element in the claim with its equivalent component taught in the prior art reference. Applicant argues (claim 1) that Williams's teaching does not meet the limitation of a control system as broadly claimed. Contrary to Applicant's contention, the Williams reference does teach the recited control system *(see Fig. 5, 67, for example)*. The scope of the claimed "control system" clearly transcends the more narrow scope that Applicant attempts to impute through argument. Claimed subject matter, not the specification is the

measure of the invention. Limitations in the specification cannot be read into the claims for the purpose of avoiding the prior art, In re Self, 213 USPQ 1,5 (CCPA 1982); In re Priest, 199 USPQ 11, 15 (CCPA 1978). The aforementioned claim elements are clearly subject to a broad interpretation, as detailed in the rejections maintained above. The Examiner has a *duty* and *responsibility* to the public and to Applicant to interpret the claims *as broadly as reasonably possible* during prosecution (see *In re Prater, 56 CCPA 1381, 415F.2d 1393, 162 USPQ 541 (1969)*).

69. Applicant makes arguments in the Remarks on page 18 but they are unclear due to grammatical errors. The Examiner interprets Applicant's argument to be that Williams fails to teach or suggest responding to failure of the compared processes to achieve comparable states by rolling back each of the failed processes to prior states to achieve a favorable comparison.

In response, the Examiner has acknowledged that Williams fails to explicitly teach wherein the scheduling logic responds to an error by rolling back each of the first and second processes to a prior states in which a favorable comparison was achieved. However, the Examiner has argued that it is well known in the art of task management that processes can have the feature of rollback or two-phase commit, where the process completely finishes or else cancels out so that the effect is all or nothing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a rollback feature to the process so that they will be complete or not existent.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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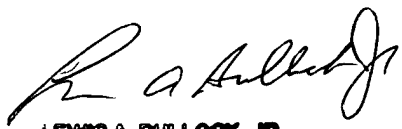

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